Applicants: S. Zolotukhin, et al.

Serial No. 10/731,726

LISTING OF THE CLAIMS:

1-23. (Previously Canceled)

24. (Original) Recombinant adeno-associated virus, prepared by applying a sample containing recombinant adeno-associated virus to an iodixanol gradient, and collecting said recombinant adeno-associated virus from said gradient.

25-30. (Previously Canceled)

- 31. (New) Purified recombinant adeno-associated virus, prepared by applying a crude sample containing recombinant adeno-associated virus to at least a first matrix comprising: heparin under conditions effective to permit binding of the virus to said first matrix; eluting the virus from the matrix; contacting the eluted virus with at least a first iodixanol gradient and collecting the virus.
- 32. (New) Purified recombinant adeno-associated virus (rAAV) prepared by applying a crude sample containing rAAV to an iodixanol gradient and collecting the rAAV from said gradient.
- 33. (New) A purified, high titer recombinant adeno-associated virus (rAAV) stock obtained by the steps of:
- i) contacting a crude sample containing a population of rAAV particles with a heparin matrix under conditions effective to permit binding of the rAAV particles to the heparin;
 - ii) removing non-bound particles from the first matrix by a selective first elution;
 - iii) eluting the population of rAAV from the heparin matrix by a second elution;
 - iv) subjecting the population of rAAV from step iii) to an iodixanol gradient; and
 - v) collecting the rAAV from selected gradient fractions.
- 34. (New) The rAAV stock of claim 33 wherein the first matrix is heparin agarose type I.
- 35. (New) The rAAV stock of claim 33 wherein the first matrix is heparin agarose type II-S.
- 36. (New) The rAAV stock of claim 33 wherein the rAAV collected from selected gradient fractions is contacted with a hydrophobic matrix that interacts with hydrophobic species and collecting non-interacting virus eluted from the hydrophobic matrix.

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37. (New) The rAAV stock of claim 36 wherein the hydrophobic matrix comprises agarose.

- 38. (New) The rAAV stock of claim 36 wherein the hydrophobic matrix comprises phenylagarose.
- 39. (New) The rAAV stock of claim 33 wherein the stock is obtained by the steps of I-v further comprising contacting the collected virus from the first iodixanol gradient with a second iodixanol gradient and collecting the virus from said second iodixanol gradient.
- 40. (New) The rAAV stock of claim 33 wherein the stock is obtained by the steps of I-v further comprising applying the virus collected from the first iodixanol gradient to a first cesium chloride gradient, and collecting the virus from the first cesium chloride gradient.
- 41. (New) The rAAV stock of claim 36 wherein collecting the stock further comprises applying the virus from the hydrophobic matrix to a second iodixanol gradient and collecting the virus from the second iodixanol gradient.
- 42. (New) The rAAV stock of claim 40 further comprising the step of applying the virus collected from the first cesium chloride gradient to a second cesium chloride equilibrium density gradient and collecting the virus from at least a first fraction of the second cesium chloride equilibrium density gradient.
- 43. (New) The rAAV stock of claim 33 wherein the heparin matrix is comprised within an HPLC column.
- 44. (New) The rAAV stock of claim 33, wherein the first iodixanol gradient comprises an about 15% iodixanol step, and about 25% iodixanol step, and about 40% iodixanol step, or an about 60% iodixanol step.
- 45. (New) The rAAV stock of claim 33, wherein at least the first iodixanol gradient further comprises NaCl.
- 46. (New) The rAAV stock of claim 33, wherein the virus is eluted from the first matrix with a composition comprising at least about 1M NaCl.